



# ALPHABET SOUP



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## FQPA, FIFRA, 2(ee), 24(c), S18, 25(b), CARAT, SAP, PDP, ETC.

An EPA Region 4 (AL, FL, GA, KY, MS, NC, SC, TN) information update to inform regulators, organizations, and the interested public about the Food Quality Protection Act (FQPA), sustainable agriculture projects, pesticide registration and re-registration decisions, pesticide policy and Regional enforcement updates.

## BIOLOGICAL CONTROL MAY FORESHADOW FIRE ANT FATE



*By Nathan F. Brown, District Inspector for the Mississippi Department of Agriculture and Commerce Bureau of Plant Industry (Editor's Note: Nathan F. Brown died of heart failure on April 15, 2004. He was 34 years old. Survivors include his wife Shay and his two children, Leon and Krista. This article originally appeared in the June issue of Mississippi's "Bureau of Plant Industry Messenger".)*



**NATHAN F. BROWN**

New weapons in the fight to control imported fire ants (IFA) have emerged not from a chemical laboratory but from Mother Nature herself.

Most people who live in the Southeast are familiar with the fiery sting of the IFA and the damage that they can do would love to see these ants become extinct. However, that is not in the forecast. The introduction of biological controls will never eradicate IFA from the South.

The objective in releasing biological controls is to hopefully provide area-wide suppression, reducing human dependence on repeated chemical applications in homes, gardens and agricultural-use areas. This past October, the Mississippi Department of Agriculture and Commerce, along with the Animal and Plant Health Inspection Service (APHIS) of the United States Department of Agriculture (USDA), released several thousand phorid flies of the *Pseudacteon* genus in Simpson County, MS.

The release was arranged by Anne-Marie Callcott, who heads up the APHIS Soil Inhabiting Pest Laboratory

(the fire ant lab) in Gulfport, MS. APHIS began mass-rearing the flies at their lab in Gainesville, FL, in 2000, and made the first release in 2001.

The fire ant lab has performed three releases in Mississippi. The first in Harrison County, was successful and the flies have spread an estimated seven to nine miles from the release site. A second release in Forrest County failed, it is thought, due to extremely dry weather. It is yet to be seen whether the third release in Simpson was successful.

Phorid flies are predators of imported fire ants in the native habitat of South America. Phorids are species-specific, attacking only IFAs. They do not harm native ants.

Female phorids attack worker ants by hovering over them and then, in a split second, injecting a single egg into the ant's thorax. The egg then hatches and the larva travels to the ant's head, causing it to fall off. After completing its development inside the ant head, a new fly emerges and the cycle begins again.

Worker ants are afraid of the phorids and will not forage when flies are present. This severely restricts the colony's ability to obtain food, thus weakening the colony

and allowing native ants to regain lost territory.

Other phorid fly research is being conducted in Mississippi by J. T. Vogt at a mass-ant rearing facility at the USDA-Agricultural Research Service Station in Stoneville, MS. Vogt is rearing another species of phorids, *Pseudacteon curvatis*, which seems to prefer the black imported fire ants over the red species.

In cooperation with the Mississippi Agricultural and Forestry Experiment Station, Vogt and other researchers from Stoneville are looking at the feasibility of a biological control program.

It is hoped that the phorids can maintain suppression of IFA populations, such as pastureland, with the help of a single application of toxic bait. If so, this would be a sustainable solution to the imported fire ant problem.

Another biological control organism is also being introduced around the South by APHIS researchers. *Thelohania solenopsae* is a disease introduced into IFA colonies by putting infected larvae into the mound. The disease is caused by a protozoan that weakens the colony. Weakened colonies produce fewer reproductive ants to start new colonies.

Additional information on the project can be found online at <http://fireant.ifas.ufl.edu/>.

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### **ENDANGERED SPECIES PROTECTION PROGRAM**

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*By Max Feken, Environmental Specialist III, Florida Department of Agriculture & Consumer Services*

The Endangered Species Act (ESA) is intended to protect and promote the recovery of animals and plants that are in danger of becoming extinct due to various human activities. In 1988, the ESA was amended to specify that species conservation should be accomplished in order to minimize impacts from pesticide use. As a result of this amendment, the U.S. Environmental Protection Agency (EPA) must ensure that registered pesticides will not harm species listed as endangered or threatened by the U.S. Fish and Wildlife Service, or habitat critical to those species' survival. In order to accomplish this goal, EPA created the Endangered Species Protection Program (ESPP) in 1988. This program is voluntary and relies on cooperation between U.S. Fish and Wildlife Service (FWS), EPA Regions, States, and pesticide users.

The Florida Department of Agriculture and Consumer Services (FDA&CS) is Florida's State Lead Agency for pesticide regulation and, therefore, is responsible for coordinating federally listed endangered species protection strategies for pesticide use in the state. The ESPP, which is managed by the Bureau's Scientific Evaluation Section, has two primary goals for providing the best protection for endangered species in Florida from the use of pesticides:

**Minimize the potential for non-target exposure to registered pesticides.** In order to protect federally listed species from the detrimental effects of non-target exposure to pesticides, FDA&CS performs an endangered and threatened species exposure assessment as part of the pesticide registration review process. The ESPP Coordinator also collaborates with the staff toxicologist in the review of potential impacts to

federally listed species.

A county-by-county species occurrence database was recently completed in an effort to more efficiently identify federally listed species which may occur within any of the 67 Florida counties. This database allows the ESPP Coordinator and Bureau staff to quickly list counties and habitats in which federally listed species are reported. By cross-referencing species occurrences within the listed counties, we can more accurately identify species which may occur near potential pesticide application sites.

Work is currently underway to explore the development of GIS-based species occurrence and habitat maps to more accurately describe areas which may be susceptible to pesticide application drift or runoff. High quality GIS data produced by Florida Natural Areas Inventory, would enhance geographic resolution beyond that currently available using the county-by-county data.

**Provide various outreach efforts to the agricultural community and general public.** One of the primary ways the Program accomplishes its goal of community outreach is through the development of county-specific bulletins. These bulletins describe a species' biology, contain maps of species locations, describe pesticide use limitations, and offer suggestions for reducing runoff and drift onto non-target species.

At this point, EPA headquarters is reviewing the final drafts for five bulletins. Once these bulletins are accepted by EPA, they will be made available to the public for review via the FDA&CS website. The bulletins for Gadsden, Liberty, Jackson and Gulf

counties cover three endangered plant species, the Florida Torreya, Fringed Campion, and Chapman's Rhododendron. The Okaloosa and Walton County Bulletins include species information and habitat maps for the Okaloosa Darter, the first fish species to be incorporated into a County Bulletin for Florida. In addition to these bulletins, fifteen draft County Bulletins for southern and central Florida have been completed that incorporate species information and habitat maps for the Everglade Snail Kite, the first bird species to be covered by a County Bulletin in Florida.

There are currently one hundred federally listed endangered and threatened species in Florida. They include forty-five animals and fifty-five plants. Additionally, there are a number of state listed species, most of which are not included on the FWS federal list. FDA&CS's Division of Plant Industry (DPI) acts as liaison for the Endangered Plant Advisory Council which serves to improve the protection of endangered, threatened and commercially exploited plant species identified within Florida Administrative Code, Chapter 5B-40. For more information on the Florida Endangered Species Protection Program, contact the ESPP Coordinator, Max Feken, at [fekenm@doacs.state.fl.us](mailto:fekenm@doacs.state.fl.us).

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### **OPERATION SAFE CITY**

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*By Tom Womack, Executive Assistant and Public Affairs, Tennessee Department of Agriculture*

**M**EMPHIS, TN October 3, 2003 – The Tennessee Department of Agriculture (TDA) and local law



### **INNER CITY HOUSING IN TENNESSEE**

enforcement officials announced that Operation Safe City, a six-month campaign to halt the sale of illegal, dangerous “street” pesticides throughout Memphis’ urban communities, has netted several arrests and lifted large quantities of the killer from the streets. Officials with TDA and the U.S. Environmental Protection Agency believe Memphians were unknowingly putting their families in danger by purchasing and using the farm pesticides, which are designed for outdoor use only. The problem first surfaced locally in 1997, when unlicensed exterminators sprayed more than 700 homes with methyl parathion - a pesticide often used in cotton fields.

“Operation Safe City is all about securing the safety of the families in our communities. With this goal in mind, we felt the best way to approach the problem was to educate people on just how dangerous and prevalent the stuff is,” said David Newbill, TDA’s West Tennessee regional pesticide supervisor. “We went about that in a number of ways and feel like we’ve been very successful thus far. In visiting with people throughout the Shelby County area, it’s hard to find someone who hasn’t seen the television PSA or heard it on radio.”

The campaign included the distribution of over 50,000 brochures through local community organizations such as Meals on Wheels, local church groups,

the Memphis Redbirds’ youth baseball programs and community events like the Memphis Heritage Festival, as well as radio and TV announcements that gave citizens the number of a toll-free hotline from which they could learn safety tips and other information about pest control, and report potential dangers or suspects. The number received more than 80 calls and provided officials with enough leads to help make significant progress in this battle.

That significant progress included the identification of several dealers and the arrest of four individuals, who are currently under prosecution by the Shelby County District Attorney’s Office.

Charges include the illegal sale of an unregistered pesticide, distributing a pesticide in a manner as to endanger health and the environment, the misuse of a pesticide and operating an unlicensed pest control business. Shelby County undercover officers were also able to obtain two search warrants, resulting in the confiscation of more than 70 pounds of the pesticides.

Overall, officials have proclaimed the campaign a huge success, according to Newbill. “Generally, individuals we visited with during this campaign didn’t realize the danger they were placing themselves and their families in by purchasing and using illegal pesticides, and employing unlicensed pest control operators. Unfortunately, there are individuals within our community that don’t appear to share our concerns about the welfare of our children and families and their environment.”

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### **PESTICIDES AND WATER QUALITY**

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*by Ernest Collins, Branch Manager of Technical Support, Kentucky Department of Agriculture Division of Pesticide*

*Regulation*

Since March of 1999, the Kentucky Department of Agriculture has been working alongside other state and federal agencies with the pesticide registrant, Syngenta, to review and discuss monitoring data from selected community water supply systems.

Many of the systems being studied are located in small rural communities with high pesticide use. Under the guidance of a member from the Rural Water Association, the workgroup has helped organize community meetings to deal with pesticide water quality problems, as well as provide guidance and cost sharing for the communities. The workgroup group has become instrumental in assisting the Department of Agriculture in making decisions associated with Non-Point Source 319 grants.

Members of the Pesticide Workgroup Committee include representatives from the Corn Growers Association, Department of Agriculture, Division of Conservation, Division of Water, Kentucky Farm Bureau, Kentucky Fertilizer & Agricultural Chemical Association, Inc., Natural Resources Conservation Service, Rural Water Association, Syngenta, University of Kentucky Extension Service, U.S. Geological Survey, and Western Kentucky University. The group meets three times a year.

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### **HISPANIC HEALTH FAIR**

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*by Christine Cairns, Life Scientist,  
Region 4 EPA*

On May 22, the Southeast Georgia



**ANDY WILSON TALKS  
WITH A FAIR  
ATTENDEE**

Agency in Baxley, Georgia. Over four thousand Hispanics living in South Georgia attended the event. Members from the EPA Region 4 staff were invited to speak with attendees and hand out literature about agricultural pesticide safety and the Worker Protection Standard (WPS). Christine Cairns, Amber Davis, and Andy Wilson represented Region 4 at the event.

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### **INTEGRATED PEST MANAGEMENT IN SCHOOLS**

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*By Richard Corbett, Environmental  
Scientist and South Carolina Project  
Officer, Region 4 EPA*



Communities Project, an outreach program for Hispanics, hosted a "Health and Info Fair" with the Live Oak Migrant Education

The Clemson University Department of Pesticide Regulation (DPR) has begun performing pesticide applicator inspections for its Integrated Pesticide Management (IPM) in schools program in South Carolina. School administrators and others responsible for pest management oversee pest management activities to make sure that they are carried out using methods that present the least possible health and safety risk to the children in their care. There are many nonchemical methods available for pest management in and around schools such as sanitation and structural repair. In order for nonchemical methods to be effective, it is necessary for parents, students, teachers, custodial staff, and maintenance personnel to fully understand these methods and their own roles in making these methods work. When chemical methods must be used to rid the school environment of an unwanted pest, it is imperative that these chemicals be applied, stored, and disposed of properly. To make the program successful, DPR will inspect each school district for compliance with pesticide regulations along with IPM approaches to pest management. A total of 85 school districts will be visited over the course of a three year period.

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### **ASSESSING HAZARDS OF PESTICIDES TO NATIVE FRESHWATER MUSSELS**

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*By W. Gregory Cope, PhD, Associate  
Professor and Department Extension  
Leader, Department of Environmental  
and Molecular Toxicology, North  
Carolina State University*

Native freshwater mussels (family Unionidae) are one of the most rapidly declining faunal groups in the North



America. About 67% of the nearly 300 freshwater mussel species found in North America are considered vulnerable to extinction or already extinct. Similar declines have been documented for the surface waters of North Carolina, which historically supported 56 species of unionid mussels. Today, 82% of these species are listed as endangered, threatened, or of special concern by the U.S. Fish and Wildlife Service and the State of North Carolina.

These declines have been attributed to an array of factors, including construction of dams and impoundments, sedimentation, habitat degradation, and exotic species. Although not sufficiently documented, exposure to point and non-point source pollution such as runoff of pesticides from agricultural fields may have also contributed to these declines. The relative contribution of any one of these myriad of factors to the overall decline is unknown; however, the widespread decreases have likely resulted from the cumulative, pervasive effects of chronic, low-level chemical contamination or associated physical stresses. Although most current use pesticides are relatively non-persistent in the environment (lasting only several days to weeks), their timing of application combined with the mussels unique life history and reproductive strategy makes the mussels susceptible to pesticide exposure.

Little information exists on the effects of pesticides on native mussels; therefore, assessing the hazards of pesticides to native freshwater mussels is timely and extremely needed. In August of 2003, the Pesticide Environmental Trust Fund of the North Carolina Department of Agriculture and Consumer Services funded a study

that would do just that. The study is being done by North Carolina State University. Goals of the study are to expose various life stages (e.g., larvae (glochidia), juveniles, or adults) of mussels to a suite of current use pesticides in laboratory toxicity tests and assess their relative hazards and effects. In addition, various sublethal effects such as genotoxicity, endocrine metabolism, and enzymatic regulation will be assessed with a suite of biomarkers of exposure or effect.

The successful completion of this project will provide resource managers and other decision makers in North Carolina with the information needed to perform risk assessments for many of the pesticides currently used in the state, which will help to improve the conservation and management of the valuable, but imperiled mussel fauna. The project is on schedule and is expected to be completed by August 2006. Results will be available for dissemination at that time.

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#### **UNIVERSITY OF TENNESSEE HONEYBEE COLONIES SAI GRANT**

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*by Christine Cairns, Life Scientist,  
Region 4 EPA*

A Strategic Agricultural Initiative (SAI) Grant to the University of Tennessee Department of Entomology was completed and closed out last month. The project involved testing and promoting non-chemical methods of controlling parasitic mites (*Varroa*) in honeybee colonies. A collaborative effort involving University of Tennessee beekeeping experts and the Tennessee Beekeepers Association (TBA) was proposed to demonstrate to the state's beekeepers that *Varroa* can



be managed without chemicals, using a combination of tools and tactics including use of *Varroa*-resistant queens, open bottom board sticky traps and using Thymol-based treatments (with the active ingredient being an extract of Thyme) if mite populations reach damaging levels. The project included workshops with selected beekeepers. Educational materials regarding non-chemical management of *Varroa* were produced and published on the University's Apiculture Program website <http://eppserver.ag.utk.edu/Bees/test/Intro.html>, and CDs of these materials have been distributed to each county Extension Office in Tennessee.

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#### **ENFORCEMENT AND COMPLIANCE UPDATES**

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*Glencoe Man Sentenced for Selling  
Counterfeit and Misbranded Pesticides to  
Cities*

WASHINGTON D.C. According to a U.S. Department of Justice press release, William C. Murphy, 54, of Glencoe, Alabama was sentenced on April 21 in U.S. District Court to forty-one months in prison, ordered to pay \$45,305 in restitution, and was given three years supervised release for selling counterfeit and misbranded pesticides to municipalities in Alabama and Georgia for mosquito and West Nile Virus control.

In January, shortly before his trial was to begin, Mr. Murphy pled guilty to a twenty-eight count indictment charging him with having manufactured and sold counterfeit pesticides by using registered brand names that he had no authority to use in the marketing of chemicals he mixed and packaged in an Anniston, Alabama warehouse. According to the indictment, Murphy, operating under the name Sierra Chemical, sold imitations of brand-name pesticides which bore labels falsely identifying the brand name, manufacturer, or active ingredients to the following municipalities: Enterprise, Linden, Alexander City, Brundidge, Jacksonville, Oneonta, Talladega, Weaver, Cullman, Pell City, Union Springs, Tallassee, and Lee County, Georgia.

Murphy, who has been held in prison since his arrest in May, could have received a maximum fine of \$2,000,000 and imprisonment of up to ten years for violating federal trademark protection laws, and a fine of up to \$100,000 per count and imprisonment of up to one year per count for violation of federal pesticide control laws.

"This case is an example of how state and federal agencies can work together effectively to bring to justice those who violate the environmental laws that both the state and federal governments have a responsibility to enforce," said Thomas L. Sansonetti, Assistant Attorney General of the Justice Department's Environment and Natural Resources Division. "This Administration takes seriously its obligation to protect the public health and the environment. Those individuals and corporations whose conduct creates such a threat or who knowingly violate environmental laws

will face the kind of prosecution and punishment demonstrated here."

"The sentence imposed in this case demonstrates the seriousness of environmental crimes, and my commitment to protecting the public from those who perpetrate such crimes," said U.S. Attorney Alice H. Martin.

David McLeod, Resident Agent in Charge, Environmental Protection Agency said, "Murphy's sentence should send a clear message to those persons who think they can get away with undermining the regulatory system that is intended to ensure the safety and efficacy of the pesticides sold in this country. It also demonstrates that we take these matters seriously and will vigorously investigate those who endanger public health."

This case was investigated cooperatively by Special Agents of the U.S. Environmental Protection Agency, Criminal Investigative Division and Office of Inspector General, the Federal Bureau of Investigation, and the Alabama Department of Agriculture and Industry.

Assistant United States Attorney Robert O. Posey, Department of Justice Environmental Crimes Section Senior Trial Attorney Jeremy Korzenik, and Environmental Protection Agency Region IV Senior Counsel Richard Glaze prosecuted the case.

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#### **MISCELLANEOUS**

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**R**egion 4 would like to welcome Barry Skipper as the new Director of the Pesticide Regulation Division for the Kentucky Department of

Agriculture. Barry comes to the Department from Alabama where he was associated with the agri-chemical industry for many years.

We would also like to commend the Georgia Department of Agriculture for hosting both the Structural and Agricultural Inspectors Regional Training Courses in Atlanta this year. Approximately fifty inspectors participated in the three day training sessions.

In addition, the Georgia Department of Agriculture will be hosting a national Pesticide Inspector Residential Training (PIRT) course in Savannah August 30th-



September 2nd. Our appreciation goes to the Pesticide Division and the Department of Agriculture, as well as others involved in the training events.

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#### **From the Editor...**

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To view an electronic version of *Alphabet Soup*, visit the Region 4 website at:

[www.epa.gov/pesticides/local/region4/news/index.htm](http://www.epa.gov/pesticides/local/region4/news/index.htm)

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